

5

In a conventional device for extracting voice features accurately without being influenced by noises, such as a voice recognition device, usually an input voice signal is processed first by a noise reduction system having the tap length N , and the result is FFT-processed by L -points, and then the power spectrum vector is calculated; accordingly, a one time operation requires N multiplications and $(N - 1)$ summations. The voice feature extraction device according to the invention receives a voice signal including noises from a microphone, which is processed by a window function operation unit, and thereafter FFT-processed by an FFT operation unit by L -points. A power calculation unit calculates a power spectrum vector of the input voice signal. However, a noise reduction system determines in advance a filter coefficient of this system and processes the coefficient to calculate a noise reduction coefficient, and the power spectrum vector is processed by this noise reduction system. Thereby, the voice feature extraction device of the invention reduces the processing volume to $1/(4N - 2)$ in comparison to the conventional device, lightens the processing load of the processing unit, and increases the processing speed.